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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/538,941	03/31/2000	Hans-Detlef Luginsland	PM 258030/99003250	9776

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Pillsbury Winthrop LLP
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McLean, VA 22102

EXAMINER

LEE, RIP A

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 06/13/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/538,941

Applicant(s)

LUGINSLAND, HANS-DETLEF

Examiner

Rip A. Lee

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

This office action follows a request for continued examination (RCE) under 37 CFR 1.114 filed on March 4, 2003. Applicants have amended claims 1 and 15. New claims 21 and 22 were added.

Claim Objections

1. Claims 7 is objected to because of the following informalities: Since claim 1 has been amended to recite "solution of styrene/butadiene copolymers," the term "synthetic rubber," in the context of the dependent claim, may fail to limit further the parent claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

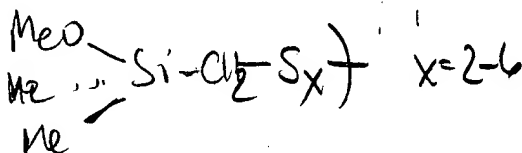
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 9, 11, 12, 14, 15, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,650,457 to Scholl *et al.*

Scholl *et al.* teaches a rubber mixture containing at least one solution SBR and at least one organosilane coupling agent in an amount of 01.-15 wt % (claim 1). An example of the coupling agent is $[(\text{MeO})\text{Me}_2\text{SiCH}_2]_2\text{S}_x$ and $[(\text{EtO})\text{Me}_2\text{SiCH}_2]_2\text{S}_x$ where $x = 2-6$ (claim 3, see

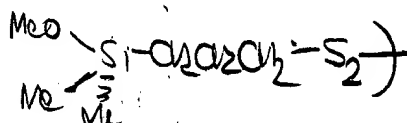


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structures (4) and (8). Fillers include silica, silicates, alumina, and carbon black (col. 3, lines 25-27). The inventive compositions are used for production of tires (col. 1, line 12).

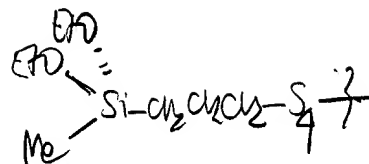
4. Claims 1-5, 9-15, and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 732 362 to Zimmer *et al.*

The prior art of Zimmer *et al.* discloses rubber composition for use in tire treads (see abstract). The rubber composition is reinforced with a combination of silica, alumina/aluminosilicate, optionally carbon black, and a silica coupler (page 2, lines 8-9). The general formula of said silica coupler is shown on page 5, and examples include $[(\text{MeO})\text{Me}_2\text{SiCH}_2\text{CH}_2\text{CH}_2]_2\text{S}_2$ and $[(\text{MeO})\text{Me}_2\text{SiC}_{18}]_2\text{S}_2$ (claim 21, lines 29 and 41; page 8, lines 10 and 14). This is incorporated into the composition in an amount of 0.05-20 parts by weight (claim 1). The additives may be used with a variety of different rubber materials such as solution polymerization prepared SB rubber (page 8, lines 22 and 40-44). In another aspect of the invention, another organoalkylsilane of formula $\text{R}'\text{-Si}(\text{OR})_3$ may be added to the composition (page 6, line 48).



5. Claims 1, 9, 11-15, 18-20 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,489,389 to Ohta *et al.*

Ohta *et al.* teaches rubber compositions containing a styrene-butadiene rubber component which is prepared by solution polymerization (col. 3, line 55). The composition also comprises a silicate filler represented by formula (I), as shown in claim 1. Other filler include silica and carbon black (col. 2, lines 55 and 57). Coupling agents are disclosed in column 7, lines 29-54),



and specific examples include $[(\text{EtO})_2\text{MeSiCH}_2\text{CH}_2\text{CH}_2]_2\text{S}_4$, $(\text{MeO})_2\text{MeSiCH}_2\text{CH}_2\text{CH}_2\text{SH}$, and $(\text{MeO})_2\text{MeSiCH}_2\text{CH}_2\text{CH}_2\text{Cl}$ (col. 8, lines 13-16). Coupling agents are used in an amount of 3-20 wt % (claim 16). The compositions are useful in the manufacture of tire treads (col. 9, line 26).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

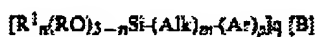
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-12, 14-19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,159,009 to Wolff *et al.* in view of Scholl *et al.*

Wolff *et al.* discloses rubber mixtures comprising at least one organosilicon compound of general formulae reproduced below (see claim 1 and claim 6).



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In particular, group B represents $-\text{SCN}$, $-\text{SH}$, $-\text{Cl}$, or $-\text{S}_x-$ if $q = 2$. R and R^1 represent an alkyl group containing 1-4 carbon atoms or a phenyl group. The mixture contains up to 15 % by weight of organosilicon compounds. The mixture contains reinforcing, synthetic fillers such as silicas and silicates (col. 3, line 44). The rubber mixtures are used in tire construction, *e.g.*, in the belt, carcass and bead areas (col. 4, lines 16-17).

One having skill in preparation of rubber compositions will appreciate that organosilicon coupling agents can be used with styrene-butadiene rubber, regardless if it is in solution or emulsion form. Although Wolff *et al.* only shows examples in which said coupling agents can be used in compositions containing emulsion polymerized styrene-butadiene rubber, the skilled artisan merely need turn to Scholl *et al.* to discover that these coupling agents can also be used successfully with solution polymerized SB rubber. Therefore, even the moderately skilled artisan would find it obvious to use the coupling agents disclosed in Wolff *et al.* in compositions containing solution polymerized SB rubber as well.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (703)306-0094. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (703)308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703)746-7064. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

ral

June 10, 2003



DAVID W. WU
SUPERVISORY PATENT EXAMINER
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